

The cost of immunization programmes in the next 10 years

WHO/UNICEF costing study concludes that with an additional US\$ 1 billion per year, immunization could save 10 million more lives in a decade

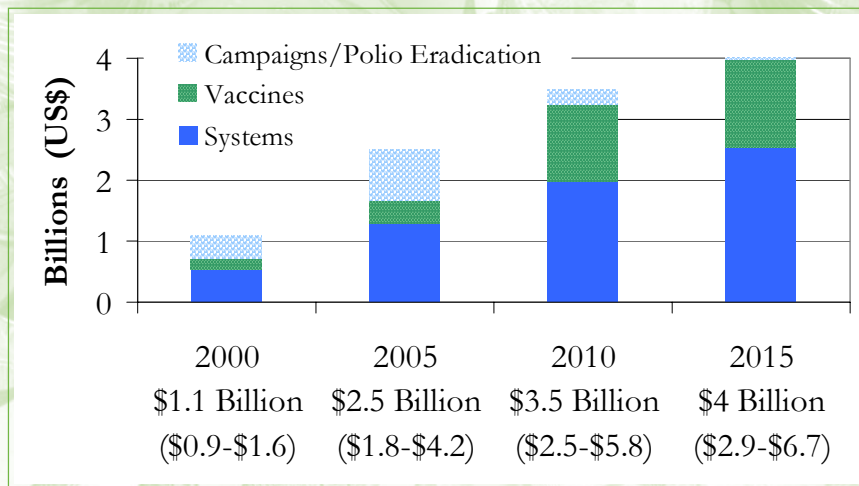
In December 2005, WHO and UNICEF presented the results of a study covering the potential impact of immunization over the next decade and outlining the financing required for immunization activities in the 72 poorest countries of the world.

Main findings

Spending on immunization in the 72 poorest countries of the world has risen over the last five years, from an average of US\$ 1.1 billion per year in 2000 to US\$ 2.5 billion in 2005 (see figure below), but will need to rise even more, to US\$ 4 billion by 2015, if an additional 10 million more lives are to be saved¹. This increase in spending during recent years, together with the wide recognition of the cost-effectiveness of immunization, given further weight by a recent Harvard study showing that immunization yields a net economic return of 18-30%², gives cause for optimism about the ability to meet the need for future increases in funding.

Estimated (annual) spending 2000-2005 and forecasted expenditures 2010-2015 for immunization programmes in 72 low-income countries

Note : all figures in US\$; ranges indicated in brackets



The estimated total price tag for immunization activities in 2006-2015 in the 72 poorest countries is US\$ 35 billion. One third of this amount will be spent on vaccines, rising from about US\$ 350 million in 2005 to nearly US\$ 1.5 billion per year by 2015, as vaccination coverage is expanded with underused vaccines³, and new vaccines⁴ are introduced. Two thirds will be spent on immunization delivery systems, including shared costs for the strengthening of overall health systems, a key factor in increasing immunization coverage. US\$ 2.2 billion will go towards immunization campaigns, such as those for measles, tetanus, yellow fever, and polio.

A funding gap of between US\$ 11 and US\$ 15 billion remains, if the goal of saving 10 million more lives is to be achieved. This is in spite of the fact that current data indicates that the poorest countries currently finance, on average, about one third of their immunization expenses and that the resources of the GAVI Alliance⁵ over the next 10 years are expected to be substantial.

What was the methodology used?

The authors of the study created an "illustrative scenario" of interventions that might be selected in order to achieve the goal of the WHO-UNICEF Global Immunization Vision and Strategy (GIVS)⁶ of reducing vaccine-preventable disease mortality and morbidity by two thirds by 2015 compared to 2000 levels. The study estimated the cost in 72 of the world's poorest countries of: reaching 90% national coverage with all existing vaccines (three doses of vaccines against diphtheria-

tetanus-pertussis, oral polio vaccine, *Haemophilus influenzae* type b, and hepatitis B; two doses of measles vaccine; and one dose each of rubella and yellow fever vaccines); introducing new vaccines as they become available (rotavirus, conjugate pneumococcal, conjugate meningococcal A, and Japanese encephalitis vaccines); and conducting immunization campaigns to rapidly protect at-risk populations against tetanus, measles, yellow fever, and meningococcal meningitis.

To estimate the costs, a model was built which was based on data from more than 40 countries' Financial Sustainability Plans, used together with data and methods from WHO-CHOICE⁷ and projections of vaccine prices, as well as information on recommended "best practices" for scaling up immunization. The uncertainty around the forecasts generated was carefully documented.

Why was the study needed?

With the launch of the GIVS, the announcements last year concerning the launch of the International Finance Facility for Immunization (IFFIm), and pledges from several donors (the governments of Canada and Norway, and the Bill & Melinda Gates Foundation) of major new support for the GAVI Alliance, responses were urgently needed to questions such as: how much money is needed to reach immunization goals? what are the funding gaps to achieve immunization goals? is it financially feasible to introduce new vaccines such as those to protect against rotavirus diarrhoea and pneumococcal disease? This study addressed such questions.

What about other lower-middle income countries that are not GAVI-eligible?

The total cost of immunization activities in all 117 low and lower-middle income countries for the period 2006-2015 is estimated at US\$ 75 billion, US\$ 40 billion more than is required for the 72 poorest countries. US\$ 11 billion of the US\$ 40 billion would be spent on vaccines, US\$ 3 billion on scaling up immunization delivery systems, and the remainder on maintaining current systems. With vaccine coverage rates generally higher than those in the 72 poorest countries of the world, these additional 45 lower-middle income countries are likely to be "early adopters" of new vaccines. As such, costs related to the introduction of new vaccines are likely to be higher than in those countries introducing them in subsequent years. These "early adopter" countries are, however, likely to find means of funding new vaccines more easily than the lower income countries.

¹ In 2003, the estimated number of deaths averted by immunization was more than 2 million, plus 600 000 hepatitis-B-related deaths (from liver cirrhosis and cancer) that would otherwise have occurred in adulthood.

² David E. Bloom, David Canning & Mark Weston, (2005) "The Value of Vaccination", *World Economics*, 6:3, 15-39.

³ Hepatitis B, *Haemophilus influenzae* type b (Hib), rubella and yellow fever

⁴ Conjugate pneumococcal, rotavirus, conjugate meningococcal A and Japanese encephalitis

⁵ Formed in 2000 as an alliance between the private and public sector committed to the mission of "saving children's lives and protecting people's health through the widespread use of vaccines".

⁶ http://www.who.int/vaccines-documents/DocsPDF05/GIVS_Final_EN.pdf

⁷ (CHOosing Interventions that are Cost Effective) <http://www.who.int/choice/en/>